Patent Application No. 10/043,698
Amdt. Dated January 30, 2007
Reply to Office Action of November 30, 2006

Docket No. MET2.PAU.02

REMARKS

In the outstanding Final Office Action, the Examiner has rejected all pending claims. In this response to the Final Office Action, Applicant has amended the claims to overcome the objections of the Examiner and to further distinguish the cited art.

Rejections under 35 U.S.C. Section 101

This rejection includes independent Claim 8 and Claims 9-16 dependent thereon. Following the suggestion of the Examiner, these claims have all been amended to recite a computer-readable medium encoded with a plurality of processor executable instructions for implementing a function. Accordingly, this rejection of Claims 8-16 should be withdrawn.

Rejection of claims under 35 U.S.C. section 102 citing Grauch (US 2005/0235318)

Claims 1-5, 8-13 and 16 are included in this rejection. Of this group, Claims 1 and 8 are independent; the remaining claims are dependent.

Prior to the instant amendment, Claim 1 recited a "group consisting of watch date, watch start time, watch duration, and watch channel." In the outstanding Office Action, the Examiner

suggested that this was a Markuch-type claim that only required consideration of one of the alternative limitations. Accordingly, in this amendment, Applicant has amended Claim 1 to recite data item variables including watch channel, watch start time, and at least one of watch date and watch duration. Although the Examiner has shown the limitation of watch channel to be disclosed in the cited art, the limitations of watch date and watch duration are not disclosed or contemplated in the cited references. Accordingly, Claim 1 and the claims dependent thereon should be allowable.

In addition to the patentable recitations of Claim 1, Claim 2 recites the step of defining a knowledge base comprising calculating a parameterized transition matrix defining the viewing habits. In rejecting this claim, the Examiner refers to the parameterized transition matrix and cites the click stream data 80 Figure 7 and paragraph 95 of Grauch. Figure 7 of Grauch discloses a tabulation, not a matrix.

The most relevant definition of a matrix found in Webster's New Encyclopedic Dictionary is, "...a rectangular array of mathematical elements that is subject to a special form of addition and multiplication." This clearly distinguishes the tabulation illustrated in Figure 7 or any other contemplation of click stream data contemplated by Grauch. On the other hand, the matrix disclosed and claimed by applicant is illustrated in Figure 5 and described beginning at

the bottom of page 49 of the application as filed. In this location, the matrices are defined as being in a temporal form and including a first matrix for TV watching activities and a second matrix for TV channel surfing. These limitations are recited in new dependent Claims 22 and 23. Based on these distinctions, it is believed that the recitations of Claim 2 further distinguish the cited art.

Claim 3 recites at least two concurrent transition matrices including a channel matrix and a genre matrix. Again, the cited art neither discloses nor contemplates a parameterized transition matrix.

Paragraph 4 recites the step of defining the transition matrix as a 2-dimensional matrix with transitions from television channels to television channels in temporal form. Again, the cited art neither discloses nor contemplates a parameterized transition matrix in temporal form.

Claim 5 recites the step of providing feedback information with the viewers monitor behavior by recording a click stream. This claim also recites the patentable limitations of Claim 1. Accordingly, the recitation in Claim 5 relates to a click stream of the viewer's monitor behavior, which includes the data item variables of watch channel, watch start time, and at least one of watch date and watch duration. Such a click stream is neither disclosed nor contemplated

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by the cited art.

Claim 8 as amended recites a computer-readable medium encoded with a plurality of processor executable instructions for implementing a function. The claim recites the step of updating and reinforcing the global probability density function upon determining that a given probability function has a higher confidence level then a previous probability density function. In this regard, the cited art neither discloses nor contemplates a global probability density function, let alone the steps of updating and reinforcing that function, or determining that a given probability function has a higher confidence level then a previous probability density function. In short, the cited art does not even contemplate data with a confidence level. Accordingly, in combination with the other recitations, Claim 8 and the claims dependent thereon should be allowable.

Claim 9 has been amended to recite that these statistical state machines are selected from the group comprising watch channel, watch start time, and at least one of watch date and watch duration. This group is already been distinguished from the cited art and, in addition to the patentable recitations of Claim 8, should render Claim 9 allowable.

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Claim 10 has been amended to recite a statistical state machine transition matrix. Such a matrix has already been distinguished from the cited art in comments directed to Claim 2. In rejecting Claim 10, the Examiner refers to Figure 7 and paragraph 95 of Grauch. In neither of these locations does Grauch even mention a matrix.

Claim 11 also recites a parameterized transition matrix. Claim 12 recites that the matrix is one of at least two concurrent transition matrices including a channel matrix and a genre matrix. Claim 13 further recites that the transition matrix is a 2-dimensional matrix with transitions from television channels to television channels in temporal form. Claim 16 also recites demographic cluster information of the viewer in terms of at least one statistical state machine transition matrix. In each of these claims, the recitation of a transition matrix distinguishes the cited art for the reasons previously discussed.

Rejections under 35 U.S.C. Section 103 citing Grauch et al in view of Konig

This rejection includes Claims 6, 7, 14 and 15. Claim 6 and 7 are ultimately dependent on Claim 1 while Claims 14 and 15 are ultimately dependent on Claim 8.

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In rejecting Claims 6 and 14, the Office Action notes that Grauch fails to specifically teach the method and corresponding computer readable medium, which comprises parameterizing the viewer's monitor behavior with a double-random pseudo Markov process. For this teaching, the Examiner relies on the patent to Konig. Within this reference the Applicant is specifically directed to column 28 lines 14-18 for the mention of an initial Hidden Markov Model. More specifically, in this location it is suggested that two terms in a disclosed formula can be implemented using the Hidden Markov Model. Nothing more is said in this reference about a Markov model nor is there any disclosure as to how the implementation of the formula terms might be undertaken using a Markov model.

The Konig patent relates to an automatic system for personalizing online information and product services relating to that information. It contemplates an analysis of documents and a process for estimating the probability that a user would be interested in a particular document. There is no contemplation as to how any of this disclosure could be adapted for use with television or advertising. Applicant is not claiming to be the inventor of Hidden Markov Models and does not believe that he is the first to use such a model. The fact that Hidden Markov Models have been previously used in no way renders obvious a specific use of hidden Markov Models in accordance with Applicant's invention. Accordingly, to use a pseudo Hidden Markov Model in the context of a method for determining a television viewer's viewing habits would

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appear to be both novel and patentable.

New claim 18 is dependent on Claim 6 and further recites that the pseudo hidden Markov process is a double random process. Claim 7, which is dependent on Claim 18, further recites the step of defining the double random process with a plurality of dimensions, and determining parallel statistical state machine transition events in at least two of three state categories including channel, genre, and title.

Claim 19 is dependent on Claim 18 and further recites the step of defining a low level statistical state machine modeling a behavioral cluster, and a top-level statistical state machine with active behavioral clusters and an interaction among the active behavioral clusters. Each of these references further distinguishes the Konig reference which merely refers to a formula implementation using a hidden Markov model. Again, the nature and application of that model are not disclosed and, even if they were disclosed, would not be relevant to the present invention.

Claim 14 also recites that the parameterized viewer's monitor behavior is undertaken with a pseudo hidden Markov process. Again, such a process is merely mentioned not disclosed in the Konig reference. In no way does the mention of the hidden Markov model by Konig render it obvious that such a model might be applied in Applicant's concept.

Claim 15 is ultimately dependent on claim 8 and therefore recites the patentable

limitations of that claim. In addition, Claim 15 recites a double random process with a plurality

of dimensions. This double random process is associated with a pseudo hidden Markov process.

It is suggested in the Office Action that this process is disclosed by Konig. However, in Konig

there is mere mention of a Hidden Markov Model, and no mention or even contemplation of a

double random process.

New Claim 20 is dependent on Claim 14 and further recites that the Markov process is a

double random process. Claim 21 is dependent on Claim 20 and further recites the step of

defining a low level statistical state machine modeling a behavior cluster and a top-level

statistical state machine with active behavioral clusters and an interaction among the active

behavioral clusters. As previously discussed, each of these claims is ultimately dependent on

claim 8 and therefore recites the patentable limitations of that claim.

Add final paragraph

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CONCLUSION

For these, and other, reasons, Applicants believe that the claims are in condition for allowance. Reconsideration, re-examination, and allowance of all claims are respectfully requested. If it is believed that a telephone interview will help further the prosecution of this case, Applicants respectfully request that the undersigned attorney be contacted at the listed telephone number.
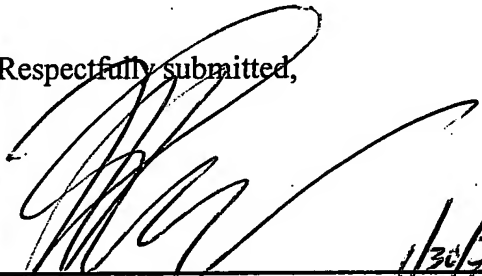
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 30, 2007.

By: Sarah A. Nielsen

Sarah A. Nielsen
Signature

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